

FIG. 4

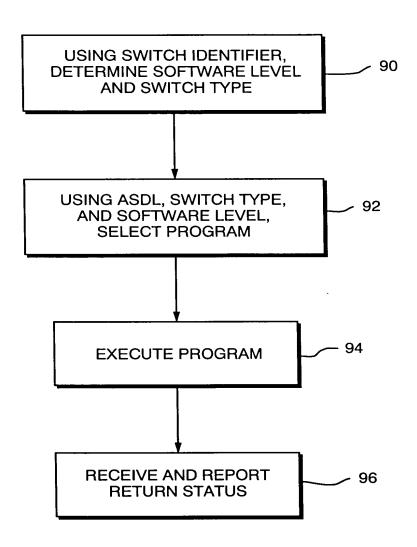
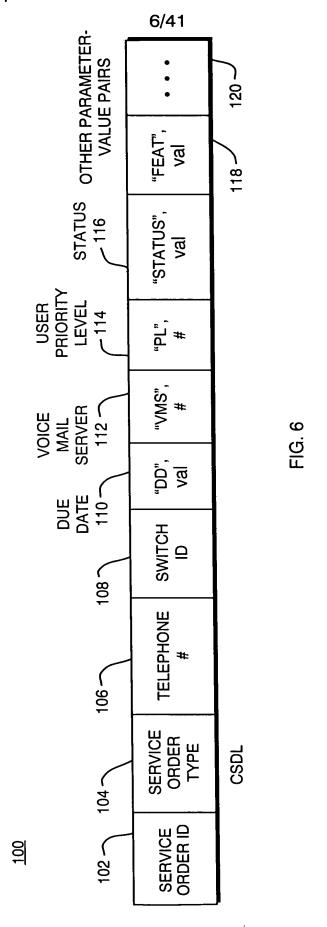
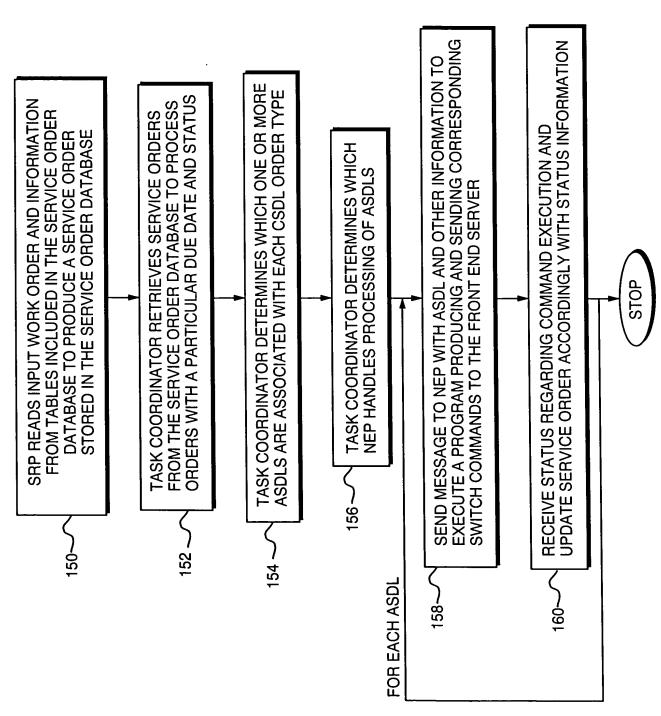


FIG. 5





SRP TASKS 150

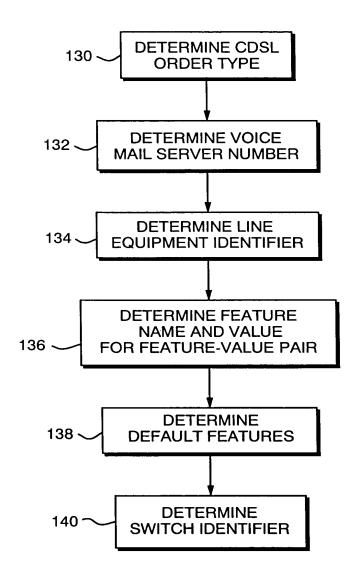


FIG. 8

NEP TASKS 158

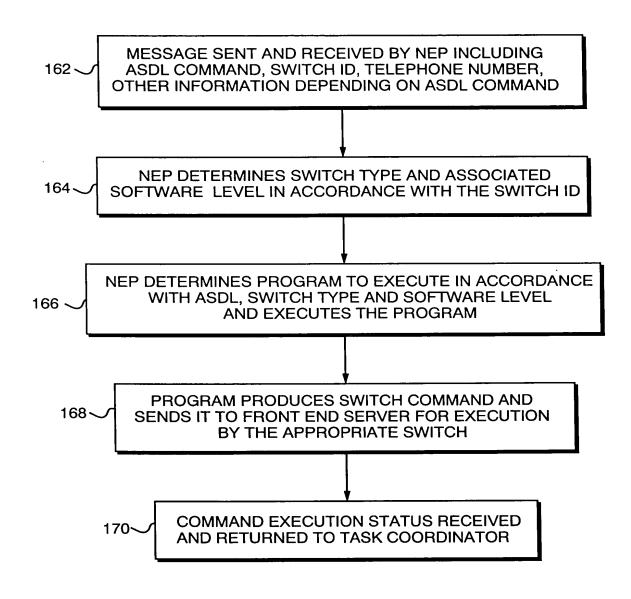


FIG. 9

#### 99-881CON1; John S. Doleac et al. A METHOD FOR ANALYZING THE QUALITY OF TELECOMMUNICATIONS SWITCH COMMAND TABLES Express Mail No. ER399789823US

CSDLs and descriptions: $\leq^{180}$	S <sup>182</sup>
C-ADD_HUNT_MEMBER	Adds another member to an existing hunt group
C-ADD_LH_SERVICE	Initializes a hunt group with one or more members
C-ADD_SERIES_MEMBER	Adds another member to an existing series-completion hunt group
C-ADD_VIRTUAL_ECF	Initializes a single line with virtual enhanced call forwarding service
C-CHANGE_BILL_MODE	Changes from flat rate to measured rate or vice versa
C-CHANGE_DIAL_MODE	Changes from dial pulse to touch call or vice versa
C-CHANGE_EQUAL_ACCESS	Changes long distance carrier(s)
C-CHANGE_FEATS	Modifies an existing service by adding or deleting features
C-CHANGE_HUNT_GROUP_SIZE	Changes the maximum size of a hunt group
C-CHANGE_HUNT_LNI	Changes line equipment for a member of a hunt group
C-CHANGE_HUNT_MEMBER_TDN	Changes the telephone number for a member of a hunt group
C-CHANGE_LINE_EQUIPMENT	Changes line equipment for an existing service
C-CHANGE_LINE_LOAD_CNTL	Changes the parameter that controls priority in service restoration after an outage
C-CHANGE_RCF	Changes the remote call forwarding number for an existing service
C-CHANGE_RING_CODE	Changes the ringing frequency for an existing service

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C-CHANGE_RSOU	Changes the originating routing indicator
C-CHANGE_SMART_RING	Changes the distinctive ringing (teen) number
C-CHANGE_TDN	Changes the telephone number
C-CLEAR_LNP_TRIGGER	Clears the local number portability indicator
C-DELETE_HUNT_GROUP	Deletes a hunt group
C-DELETE_HUNT_MEMBER	Deletes a member of a hunt group
C-DELETE_LINE	Deletes a single line
C-DELETE_LNP_PORT	Deletes a line and sets an indicator that the telephone number is ported to another switch
C-DELETE_SERIES_MEMBER	Deletes a member of a series-completion hunt group
C-DEL_LH_SERVICE	Deletes a hunt group and all of its members

- 184

FIG.10B

	180	182
	C-DEL_VIRTUAL_ECF	Deletes a service with virtual enhanced call forwarding
	C-INIT_EDT_LINE	Initialize an express dial tone service (left-in-place vacant line)
	C-INIT_HUNT_GROUP	Initialize a hunt group
185 つ	C-INIT_HUNT_GROUP_PILOT	Initialize a hunt group pilot
100 2	C-INIT_NON_HUNT_LINE	Initialize a single line service
	C-INIT_OPERATOR_INTCPT	Initialize operator intercept service
	C-LINK_HUNT_GROUP	Connect two hunt groups together
	C-LINK_SERIES_MEMBER	Connect one member of a series-completion hunt group to another member
	C-MODIFY_LH_SERVICE	Modify the members of an existing hunt group
	C-RAW_COMMAND	Send an already-generated command
	C-REMOVE_OPERATOR_INTCPT	Remove a telephone number from operator intercept service
	C-RESTORE_CARRIER	Restore long distance service to a single line after it was suspened
	C-RESTORE_HUNT_GRP_LOCAL	Restore local service to a
	C-RESTORE_LOCAL	Restore local service to a single line after it was suspended
	C-SET_LNP_TRIGGER	Change a service from working to ported out status
	C-SUSPEND_CARRIER	Suspend long distance service for a single line
	C-SUSPEND_HUNT_GRP_LOCAL	Suspend local service for a hunt group
186 ე	C-SUSPEND_LOCAL	Suspend local servive for a single line
	C-UNLINK_HUNT_GROUP	Disconnect two hunt groups

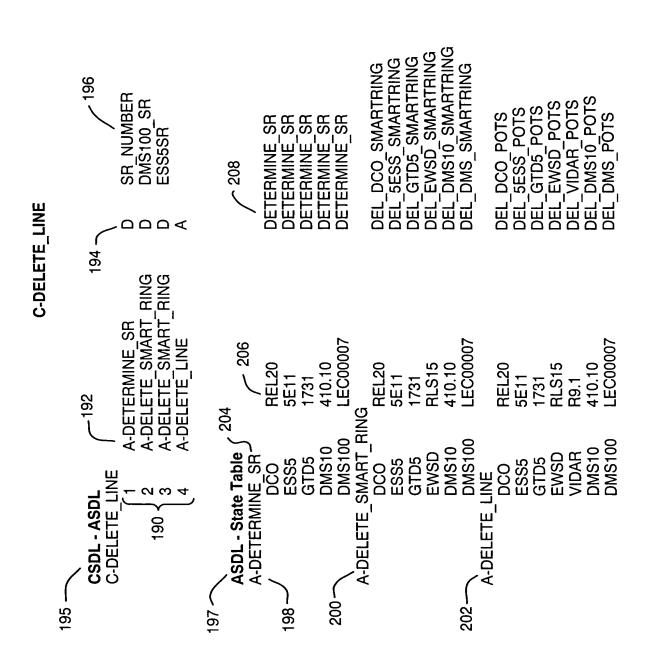


FIG 12A

# **CSDL** Description:

is present on the Work Order, and determines the switch type. If the switch is a DMS-100, it sets the DMS100\_SR parameter, which causes the second ASDL to be executed. If the switch is a 5ESS, it sets the 5ESS\_SR parameter, which causes the third ASDL to be executed. For other switch types, This CSDL deletes a working service. The first ASDL is executed if the Smart Ring number it is not necessary to delete the Smart Ring number explicitly.

Ring number is defined. The third ASDL deletes the Smart Ring number if the switch is a 5ESS and The second ASDL deletes the Smart Ring number if the switch is a DMS-100 and the Smart the Smart Ring number is defined. The fourth ASDL deletes the line, and is always executed

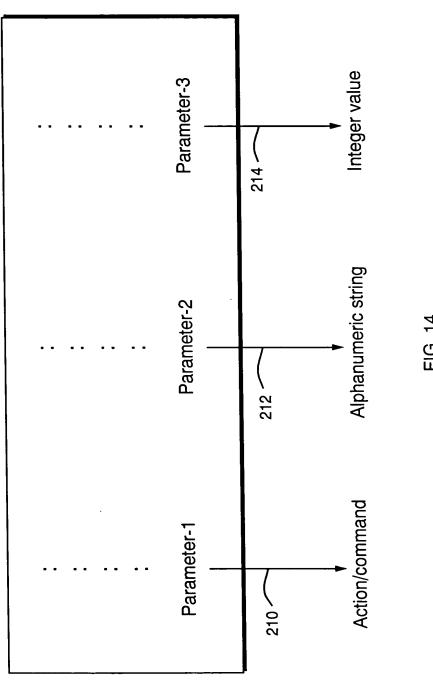
FIG 12B

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#### DETERMINE SR

# This state table prepares data for determining
# if SMARTRING is present
# It sets the SR parameter which causes the A-ADD\_SMART\_RING
# ASDL to be executed in C-INIT\_NON\_HUNT\_LINE
# It also sets the DMS100\_SR parameter which causes
# the A-DELETE\_SMART\_RING ASDL to be executed
# in C-DELETE\_LINE (for DMS100 only)
# This command determines switch type based on CLLI
# code.

```
'%TECH == "ESS5" '
IF THEN
   IF_THEN
                 '%SR NUMBER DEFINED'
       SEND PARAM
                       'SR "Y" C'
       SEND PARAM
                          'ESS5 SR "Y" C'
   ENDIF
             '%TECH == "DMS100" '
ELSE IF
   IF THEN
                 '%SR NUMBER DEFINED'
       SEND PARAM
                          'SR "Y" C'
                          'DMS100 SR "Y" C'
        SEND PARAM
    ENDIF
ELSE IF
             '%TECH == "DMS10" '
                 '%SR NUMBER DEFINED'
    IF THEN
                          'SR "Y" C'
        SEND PARAM
    ENDIF
ENDIF
                 'SUCCEED'
ASDL EXIT
```



```
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# This state table adds a single line to a VIDAR \sim 220
         PAUSE
         RESPONSELOG
         CLEAR VS
# This call puts the spaces into the line identifier CALL 'LIB_UTIL: :FORMAT_OE'
# This call gets the primary class of service
                   'LIB_UTIL: :GET_SERVICE' -
         CALL
         CALL
                    'LIB_UTIL: :GET_METRO' -
         EXEC RPC '%X=SSP vidar pcos:%CLLI CODE:%METRO:%SERVICE NAME:'
         IF_THEN '%X.pcos_code NOT_DEFINED'
VS_SEND_RESP
ASDL_EXIT 'FAIL: DID NOT FINIT
                              'FAIL: DID NOT FIND PRIMARY CLASS CODE ...'
         CALL
                    'LIB VIDAR: :VIDAR PIC'
# The recent change configuration starts here
                   '%CMD= BLA::%TDN:'
         CONCAT
                    '%CMD=%CMD: :%LEQ:'
         CONCAT
         CONCAT
                    '%CMD=%CMD: :%X.pcos code:
# This call gets any features ie: custom calling features, etc.
                    'LIB_UTIL: :ADD FEATS'
         CALL
         IF_THEN
                    '%PARTY POSITION == 11'
            CONCAT
                          '%CMD=%CMD: 1:'
         ELSE
            CONCAT
                          '%CMD=%CMD: :%PARTY POSITION:'
         ENDIF
         IF THEN
                         '%INTER2 DEFINED'
            CONCAT
  234
                             '%CMD=%CMD: PIC1>:'
            CONCAT
                             '%CMD=%CMD:%INTER2: '
         ELSE
            ASDL_EXIT 'FAIL: INTER access code is required'
         ENDIF
         IF THEN
                         '%INTRA2 DEFINED'
            CONCAT
                              '%CMD=%CMD: PIC2>: '
            CONCAT
                              '%CMD=%CMD:%INTRA2: '
         ENDIF
  236 -
         SEND
                         '%CMD'
         SENDKEY
                         'ENT'
         CHAIN
                         'VIDAR CHECK'
         VS SEND RESP
         ASDL EXIT
                         'SUCCEED'
```

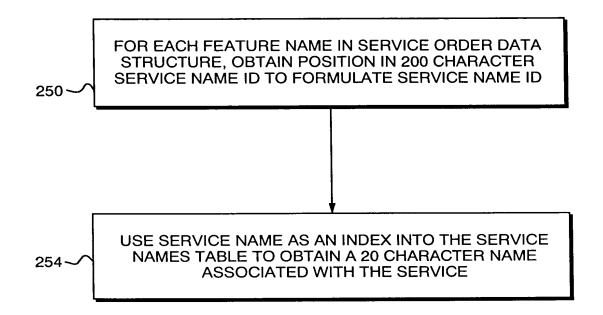


FIG. 16

Account credit

area code indicator

call blocking indicator

management indicator

Office description table

Switch ID Description

Switch ID is used as a key to other tables. All other tables using Switch ID must have an entry in this table first.

Master switch table

macro commo										
office	Switch number	software version	Time	type	number of digits to dial	group ID	remote call forward code	operator intercept code 1	operator intercept code 2	suspend

puedsns	puedsns	restore	long	calling	operator
long	long	long	distance	plan	intercept
distance	distance	distance	carrier	text	code 3
carrier code	carrier	carrier	text		
	message	message			

		Restriction	remote call	remote call
text		indicator	forwarding	forwarding
	code 5		indicator	deletion text

Type determines which other tables will contain data for this switch ID. Account credit management indicator determines which column to use in Account credit management table.

FIG 17A

pay-peruse code

default

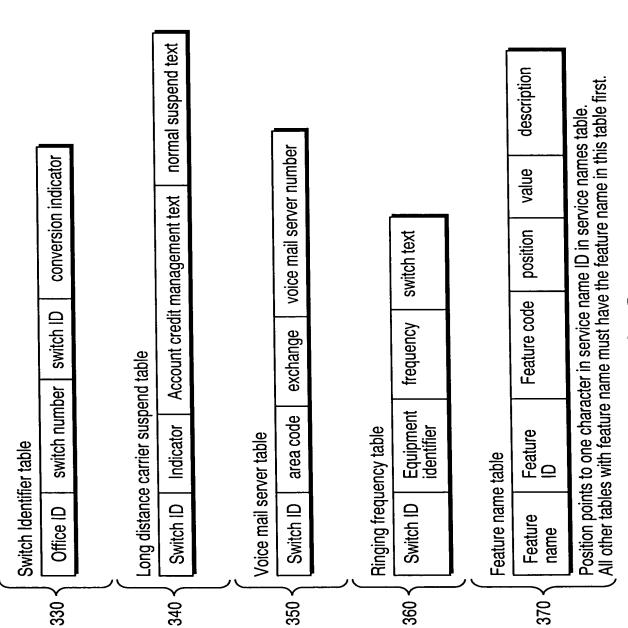


FIG 17B

#### Feature table 380 Feature type Text to add Text to Switch ID Feature code remove name Feature **Feature** Default Feature table 390 Switch ID **Feature** Service type name TO FIG. 18B 5ESS switch table 400 Line class Dialing Switch ID Calling Service Rate area indicator code code plan name indicator 5ESS switch by telephone number table 410 High end of Rate area Low end of Switch ID Calling Service telephone code telephone plan name number number indicator range range **-** 412 DMS100 switch table 420 Equipment Local area Line Switch ID Calling Service treatment identifier transport plan name ID group ID indicator 422 GTD5 switch table 430 Service Secondary Frame Calling Equipment Switch ID Service service identifier class plan name identifier class code code indicator 432 DCO switch table 440 Switch ID Service Service Class feature class name indicator code 442

**FIG. 18A** 

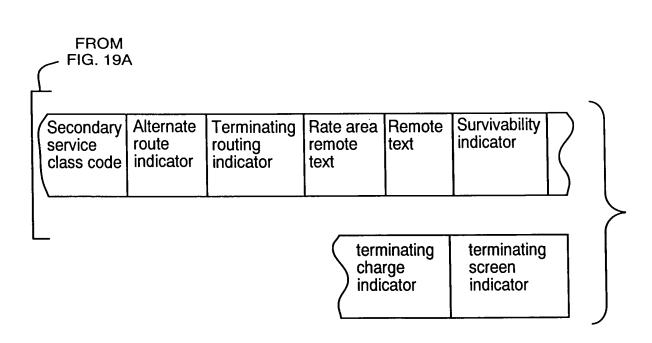
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					Terminating Terminating routing charge indicator
					Deny long distance carrier code
					Measured rate indicator
		¥			Translation indicator
		Suspend service text			ing
408		Suspend termination indicator	·	1	carrier Originat indicato
	Suspend service text	Dialing indicator	Centranet service indicator		Originating screen indicator
	Suspend termination indicator	Service class code	Service class code		Originating Originating charge screen indicator

FIG. 18B

99-881CON1; John S. Doleac et al. A METHOD FOR ANALYZING THE QUALITY OF TELECOMMUNICATIONS SWITCH COMMAND TABLES Express Mail No. ER399789823US

— DMS10 sw	itch table <u>45</u>	<u>50</u>	23/4	1		-	
Switch ID	Service name	Service Class code					
VIDAR swi	tch table <u>46</u>	452					
Switch ID	Calling plan indicator	Service name	Servi Class	ce code			
Siemens E	WSD table	470	46	62			
Switch ID	Service name	Line class	s Rate code	area			
		472					
Calling pla	n table <u>480</u>						
Switch ID	Exchange code						
DMS100 ld	ong distance	ı e carrier code	e table <u>490</u>	1			
Switch ID	Long distance carrier code	Translated long distance carrier cod				1	TO =IG. 19B 👡
GTD5 hunt	t group table	492					_
Switch ID	<del> </del>	Equipment identifier	Frame identifier	Long distance rate code	Other common carrier code	Outward billing mode	Centranet indicator
DMS10 ea	uipment pr	efix table 510	)			-	502
Switch ID	<del>'                                    </del>		ted				,
		51	2				
DMS10 err	or code tab	le <u>520</u>					
Error code	Severity indicator	Error text	t com	ment			
	L	514					FIG. 19



# equipment translation table 530

Switch ID	Equipment identifier	Translated equipment identifier
L		

# GTD5 traffic source table 540

Feature Feat type value	e Long distance carrier code	Traffic source value
----------------------------	------------------------------------	----------------------------

# GTD5 pay-per-use feature table 550

User- based three way calling	User- based auto call return	User- based busy number redial	User- based customer- originated call trace	User- based caller no. delivery block	Switch ID	Three-way calling text
--	---------------------------------------	--	---	---	-----------	------------------------

### equipment identifier format table 560

Switch type	Switch software version	Equipment identifier mask
		562

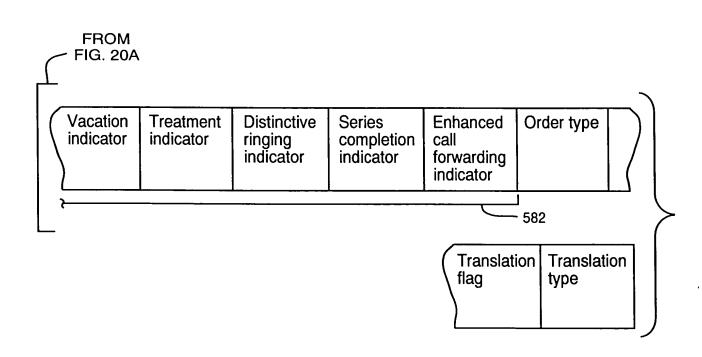
### Service names table 570

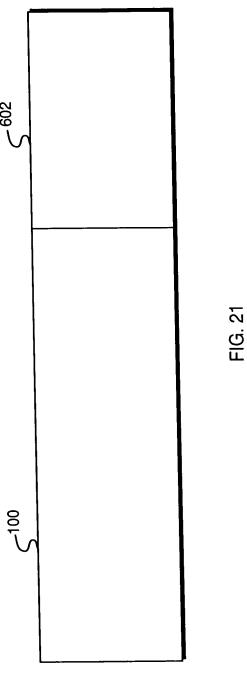
Service name identifier	Service name	comment			
<u></u>					

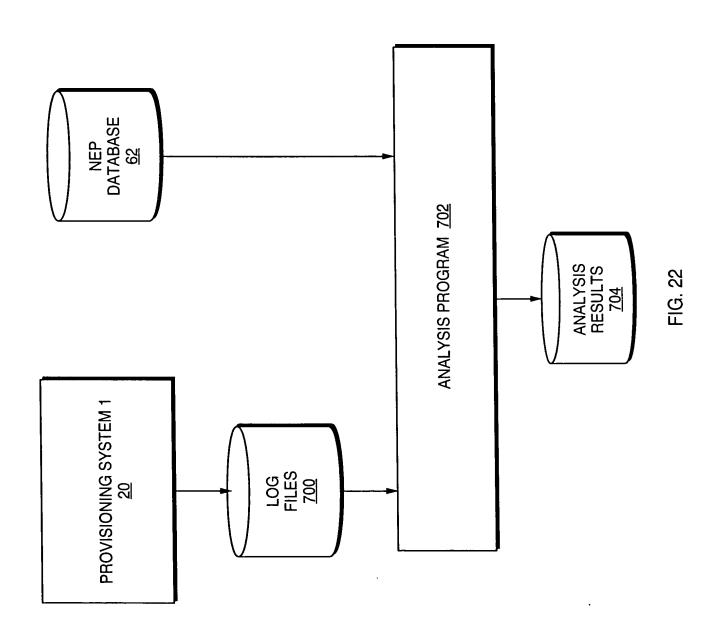
TO FIG. 20B

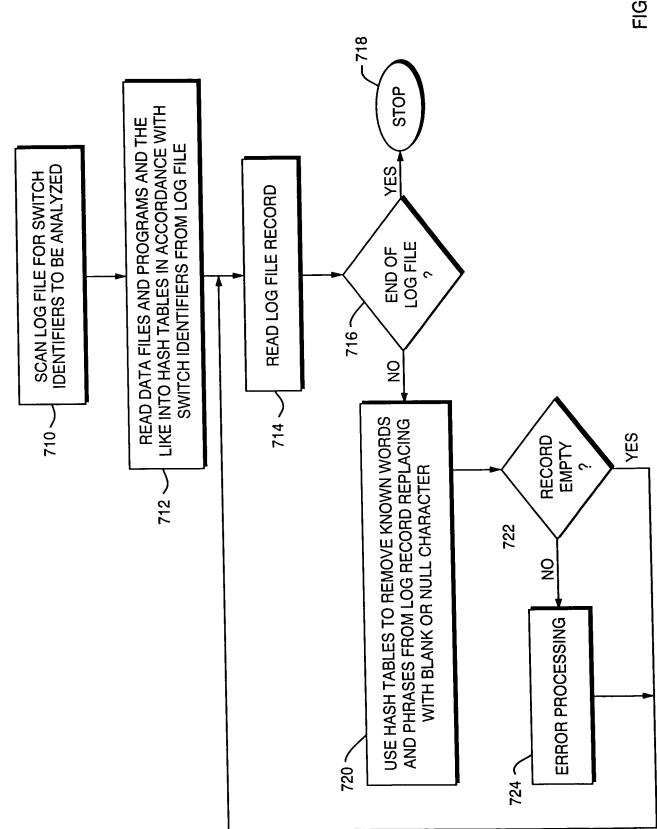
## Order type table 580

Class ID	Type code	Hunt group code	Hunt group indicator	Member indicator	New telephone number	
L				-	582	

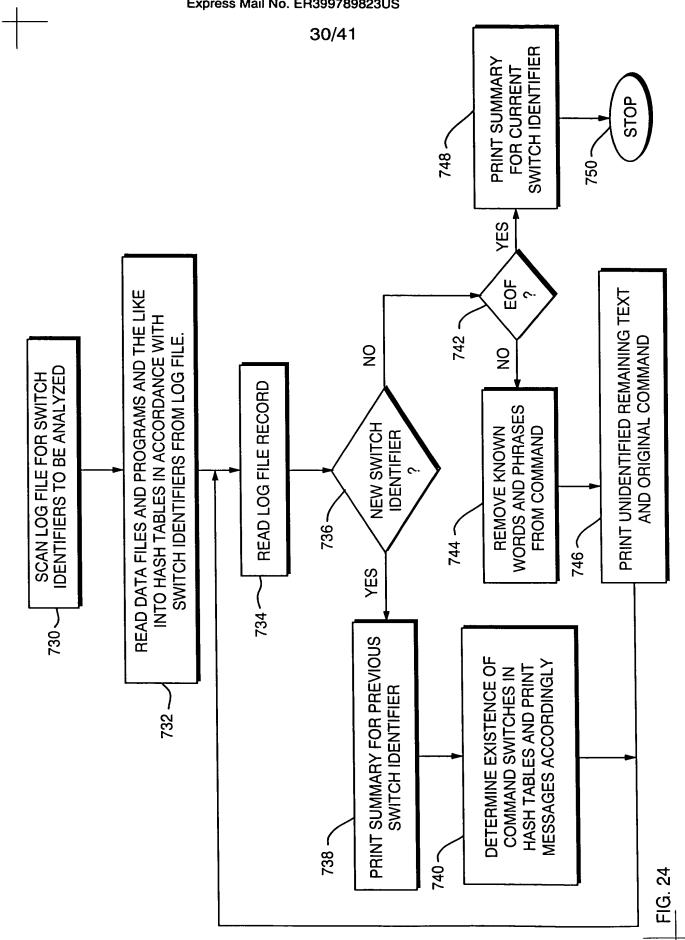








G. 23



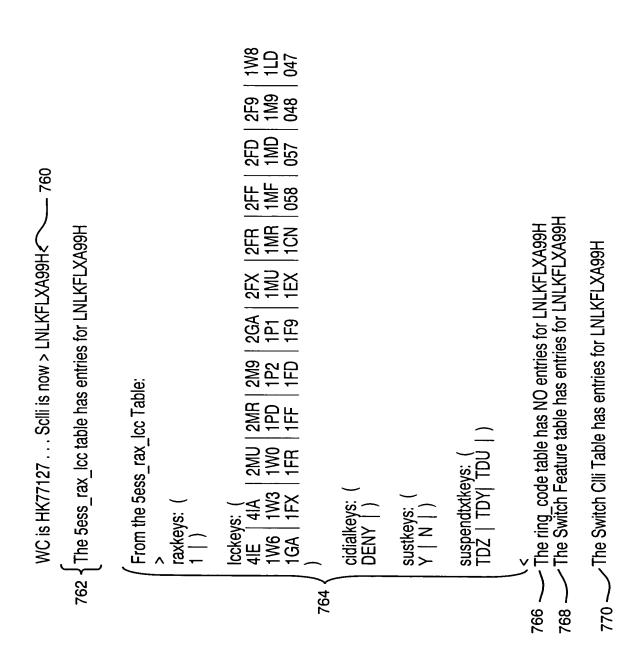


FIG. 25A

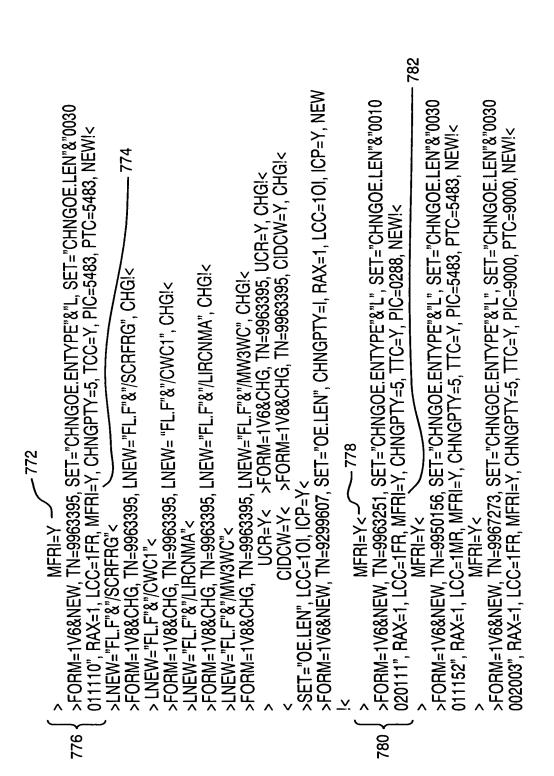


FIG. 25B

```
>FORM=1V6&NEW, TN=9959097, SET="CHNGOE.ENTYPE"&"L", SET="CHNGOE.LEN"&"0010
035142", RAX=1, LCC=1FR, MFRI=Y, CHNGPTY=5, TTC=Y, PIC=0333, PTC=0333, NEW!
> LNEW="FL.F"&"/CWC1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    >FORM=1V8&CHG, TN=9966030, LNEW="FL.F"&"CFDAVMS", LNEW="CF.F"&"CFDAVMS", LC
                                                                                                                                                                                                                                 >FORM=1V8&CHG, TN=9966030, LNEW="FL.F"&"/CFBLAC", LNEW="CF.F"&"/CFBLAC", LC HG="CF.F"&"/CFBLAC"-"CF.DN"&"8139967826", CHG!

>LCHG="CF.F"&"/CFBLAC"="CF.SI"&"3", LCHG="CF.F"&"/CFBLAC"-"CF.T"&"0"

>FORM=1V8&CHG, TN=9966030, LCHG="CF.F"&"/CFBLAC"-"CF.T"&"0"

"CF.SI"&"3", LCHG="CF.F."&"/CFBLAC"-"CF.T"&"0", CHG!

>LNEW="FL.F"&"CFDAVMS", LNEW="CF.F"&"CFDAVMS", LCHG="CF.F"&"CFDAVMS"-

                                                                                                              >FORM=1V8&CHG, TN=9963013, LNEW="FL.F"&"/LIRCNMA", CHGI<
>LNEW="FL.F"&"/CFBLAC", LNEW="CF.F"&"/CFBLAC", LCHG="CF.F"&"/CFBLAC"-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "CF.SI"&"3", LCHG="CF.F"&"CFDAVMS"-"CF.T"&20, LCHG="CF.F"&"CFDAVMS"-
"CF.B"&"Y", CHG!<
> LNEW="FL.F"&"VMAIL"<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HG="CF.F"&"CFDAVMS"-"CF/DM"&"8139967826", CHG!<
>LCHG="CF.F"&"CFDAVMS"-"CF.SI"&"3", LCHG="CF.F"&"CFDAVMS"-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            >FORM=1V8&CHG, TN=9959097, LNEW="FL.F"&"/CWC1", CHG!<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               >FORM=1V8&CHG, TN=9966030, LNEW="FL.F"&"VMAIL", CHG!<
> LOUT="FL.F"&"/LAC1"
>FORM=1V8&CHG, TN=9963013, LOUT="FL.F"&"/LAC1", CHGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                >FORM=1V8&CHG, TN=9966030, LOUT="FL.F"&"/CFV", CHG!<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "CF.T"&20, LCHG="CF.F"&"CFDAVMS"-"CF.B"&"Y"<
>FORM=1V8&CHG, TN=9966030, LCHG="CF.F"&"CFDAVMS"-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MFRI=Y<
                                                                              >LNEW="FL.F"&"/LIRCNMA"<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOUT="FL.F"&"/CFV"<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "CF.DN"&"8139967826"<
                                                                                                                                                                                                              "CF.DN"&"8139967826"<
```

TO FIG. 26B

```
Leftover words for 2434 records from LNLKFLXA99H, HK77127 were:
|MFRI=Y | LNEW= "FL.F "&"/SCRFRG" | LNEW= "FL.F "&"/CWC1" | LNEW= "FL.F "&"/LIRCNMA
| LNEW= "FL.F "&"/MW3WC" | UCR=Y | CIDCW=Y | SET= "OE.LEN" | LCC=101 | ICP=Y | LOUT= "F
                                                                                                                                                                                                                                                                            >FUHM=1 vouc...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., ...., LOUT= "FL.F "&"/CWC1", CHG!
>FORM=1V8&CHG, TN=9962010, LOUT= "FL.F "&"/CWC1", CHG!
> ARALW=< >FORM=1V6&CHG, TN=9966047, ACALW=N, CHG!
> ACALW=< >FORM=1V6&CHG, TN=9966047, USTWCALW=N, CHG!
                                        >FORM=1V6&CHG, TN=9959097, ACALW=N, CHGI<
>FORM=1V6&CHG, TN=9959097, USTWCALW=N, CHGI<
>FORM=1V6&CHG, TN=9959097, ARALW=N, CHG!<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              >FORM=1V8&CHG, TN=9960240, LNEW= "FL.F "&"/LIRCNMA", CHG!<
>LNEW= "FL.F "&"/CFV"<
                                                                                                                                                                                                                                                    >FORM=1V8&CHG, TN=9959149, LNEW= "FL.F "%"/LIRCNMA", CHG!<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               >FORM=1V8&CHG, TN=9960240, LNEW= "FL.F "&"/SCRFRG", CHG!<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  >FORM=1V8&CHG, TN+9960240, LNEW= "FL.F "&"/CWC1", CHG!<
>LNEW= "FL.F "&"/LIRCNMA"<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  >FORM=1V8&CHG, TN=9960240, LNEW= "FL.F "&"/CFV", CHG!<
                                                                                                                                                                >FORM=1V8&CHG, TN=9959149, LOUT= "FL.F "&"/LAC1, CHG!<
>LNEW= "FL.F "&"/LIRCNMA"<
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  >LNEW= "FL.F "&"/CWC1"<
                                                    ACALW=<
```

FROM FIG. 26A

FIG. 26B

'CF.T "&"0"|LNEW= "FL.F "&"CFDAVMS"|LNEW= "CF.F "&"CFDAVMS|LCHG= "CF.F "&"CFD AVMS"- "CF.DN "&"8139967826"|LCHG= "CF.F "&"CFDAVMS"-"CF.SI "&"3"|LCHG= "CF.F "&"CFDAVMS"- "CF.T "&20|LCHG= "CF.F "&" CFDAVMS" "CF.B "&"Y"|LNEW= "FL.F "&"VMAIL"|LOUT= "FL.F "&"/CFV"| "CF.DN "&"8139967826"|LCHG= "CF.F "&"/CFBLAC"-"CF.SI "&"3"|LCHG= "CF.F "&"/CFBLAC"-

LNEW= "CF.F "&"/CFLCAC"|LCHG= "CF.F "&"/CFBLAC"

ARALW=|ACALW=|USTWCALW=|LOUT="FL.F"&"/CWC1"|LNEW="FL.F"&"/CFV"|G"|PLIT=
Y | LOUT= "FL.F"&"/ SCRFRG"|LOUT="FL.F"&"/MW3WC"|UCRACTIVE=|UCR=N|SUSO=|
LNEW= "FL.F"&"/LAR1"|LNEW= "FL.F"&"/LAC1"|LOUT= "FL.F"&"/SCAFR" |CIDCW=|LOU
T= "FL.F"&"/SC1C"|COTALW=|LNEW= "FL.F"&"/SDAFR"|LNEW= "FL.F"&"/SCAFR"|LNEW
= "FL.F"&"/SC1C"|COTALW=|LNEW="FL.F"&"/SCFFR" |LNEW="FL.F"&"/SC2C" |LOUT="FL.F"&"/

PRIVACY=Y|LNEW= "FL.F "&"/DIGA"|BLK1PLUS=NONE|COIN=DTF|PCPALW=|LOUT= "FL.F "&"VMAIL"|LOUT= "FL.F "&"/CFBLAC"|LOUT= "FL.F "&"CFDAVMS"|LOUT= "FL.F "&"CFDA LIRCNMA"

FEATURE="/ASPTERM"|SET= "TA. TRIGNBR "&"12"|SET= "TA. TRIGACT "&"Y"|SET= "INTE R "&"3"|LOUT= "FL.F "&"/LAR1"|LOUT= "FL.F "&"/SDAFR"|LOUT= "FL.F "&"/SCFFR"|LO UT= "FL.F "&"/SC2C"|LNEW= "FL.F "&"ACMTLBLK"|ANI7=Y|LOUT= "FL.F "&"/LICNDA"|L CCR"|LNEW= "FL.F "&"/ASPTERM"|FORM=1V64&CHG|TN=9950064|

PRIVACY=|LOUT="FL.F"&"/DIGA"|ARALW=Y|ACALW=Y|USTWCALW=Y|LNEW="FL.F"&"/LICNDA"|LOUT="FL.F"&"ACMTLBLK"|ANI7=|SERHLN=9969995|SERHLN=9963691|LCC=E NEW= "FL.F "&"/SC1C"|

FWDTODN=8139299347|SERHLN=9961754|SERHLN=9966575|SERHLN=9967195|SERHLN TN=9963277|LNEW= "FEATLIST.FEATURE "&"/CFR"|FORM=1V22&CHG|FEATURE="/CFR"| 9961735|SERHLN=9961864|) F1|F0RM=1V11&CHG

TO FIG. 27B

FROM FIG. 27A

788

The Switch CLLI table has entries for LNLKFLXA99H

The 5ess\_rax\_lcc table has entries for WSSDFLXADS0

raxkeys: ( 1|)

lcckeys: ( 4IE | 4IA | 2MU 1W6 | 1W3 | 1W0 1GA | 1FX | 1FR

148 150 147

2F9 1M9 048

2FD 1MD 057

2FF 1MF 058

R#5

Χ≅Φ

2GA 1P1 1F9

2M3 1P2 150

2MB 170 171

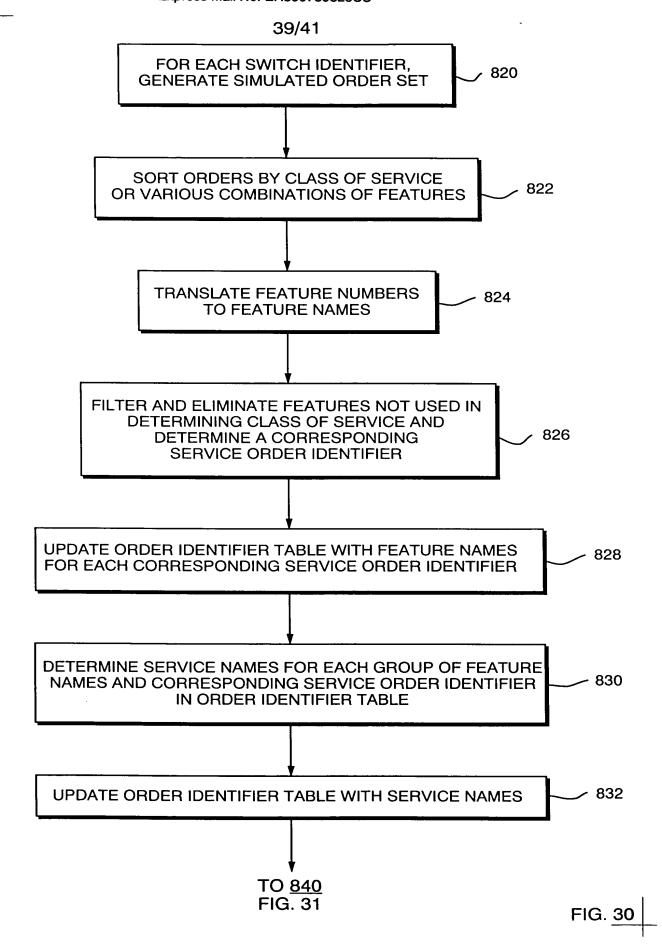
cidialkeys: (

sustkeys:

FIG. 27B

Entries for LNLKFLXA99H, HK77127, were not found in the ring\_code Table FIG. 28

99-881CON1; John S. Doleac et al. A METHOD FOR ANALYZING THE QUALITY OF TELECOMMUNICATIONS SWITCH COMMAND TABLES Express Mail No. ER399789823US



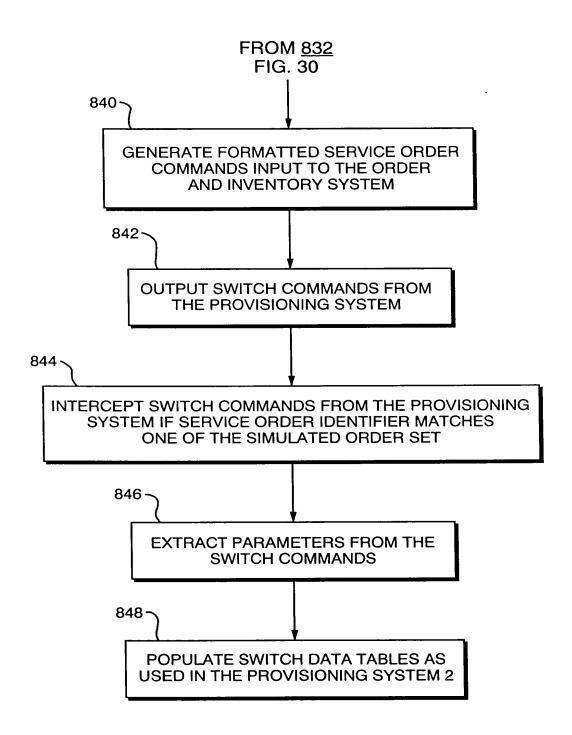


FIG. 31

800

	ļ	ВОТН		g	
812	FEATURE NAMES	900BOTH 976NPA PUS TC LH LHTSCP 1PTY MR GS SWFBOTH TRBOTH	RES 1PTY TC FR LS SWFBOTH	900BOTH BUS TC INTRZ9 LH LHMSEQ 1PTY MR LS SWFTERM	
810	SERVICE NAME	009C11AB8D00	1082	22732	
102	SERVICE ORDER ID	-	8	က	

FIG. 32